

What is claimed is:

1. A continuous process for treating a bicomponent polyester fiber comprising the steps of:

- a) providing a bicomponent fiber comprising poly(ethylene terephthalate) and poly(trimethylene terephthalate) that has been heated to a first heat-treating temperature and cooled to a temperature below about 70°C; wherein the fiber has an initial crimp contraction value and a developed crimp contraction value;
- b) applying tension to the fiber of about 0.001 to about 0.088 dN/tex;
- c) heat-treating the tensioned fiber at a second heat-treating temperature that is no lower than about 75°C and no higher than the first heat-treating temperature;
- d) cooling the fiber to lower than the second heat-treating temperature;
- e) releasing the tension from the fiber, wherein the resulting treated bicomponent fiber has a reduced crimp contraction value.

2. The process of claim 1, further comprising a step of f) heat-treating the fiber at a third heat-treating temperature, while the fiber is in a relaxed state to give a fiber having a restored crimp contraction value, wherein when the step is carried out dry, the third heat-treating temperature is higher than the second heat-treating temperature and lower than the first heat-treating temperature, and when the step is carried out wet, the third heat-treating temperature is from about 60°C to about 135°C.

3. The process of claim 1, wherein the fiber is heat-treated at a first heat-treating temperature of about 140°C to about 185°C, and the reduced crimp contraction value is about 35% to about 70% of the initial crimp contraction value.

4. The process of claim 3, wherein the initial crimp contraction value is from about 8% to about 25%, the fiber is cooled in step a) to a temperature of about 20°C to about 70°C, the tension in step b) is from about 0.001 to about 0.026 dN/tex, the second heat-treating temperature in step c) is from about 75°C to about 185°C, the fiber is cooled in step d) to a temperature of about 20°C to about 75°C, and the resulting treated fiber has a reduced crimp contraction value of about 6% to about 15%.

5. The process of claim 2, further comprising, between steps e) and f), an additional step selected from the group consisting of:

- (i) cutting the fiber into staple, carding the staple, and preparing a spun yarn of the staple, wherein step f) is carried out on the spun yarn;
- (ii) forming a fabric selected from the group consisting of knits and wovens, wherein step f) is carried out on the fabric;
- (iii) winding the fiber into a skein, wherein step f) is carried out on the skein;
- (iv) covering the fiber, wherein step f) is carried out on the fiber so covered;
- (v) twisting the fiber, wherein step f) is carried out on the fiber so twisted;
- (vi) interlacing the fiber, wherein step f) is carried out on the fiber so interlaced; and
- (vii) entangling the fiber, wherein step f) is carried out on the fiber so entangled.

6. The process of claim 1, wherein the tension in step b) is from about 0.001 to about 0.026 dN/tex.

7. The process of claim 2, wherein the fiber has a developed crimp contraction value of about 20% to about 80%, and the restored crimp contraction value is about 70% to about 100% of the developed crimp contraction value.
8. A bicomponent fiber comprising poly(ethylene terephthalate) and poly(trimethylene terephthalate) having a reduced crimp contraction value of about 6% to about 15%, wherein the fiber is derived from a precursor fiber having a developed crimp contraction value of about 20% to about 80%.
9. The fiber of claim 8, wherein the fiber has a restored crimp contraction value that is about 70% to about 100% of the precursor fiber's developed crimp contraction value and wherein the fiber is derived from a precursor fiber having an initial crimp contraction value from about 8% to about 25%..
10. The fiber of claim 8, made by the process of claim 1.